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11 Attorneys for Plaintiff Avago Technologies  
General IP (Singapore) Pte. Ltd.  
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14 **UNITED STATES DISTRICT COURT**  
15 **FOR THE NORTHERN DISTRICT OF CALIFORNIA**  
16

17 AVAGO TECHNOLOGIES GENERAL IP  
(SINGAPORE) PTE. LTD.,

18 Plaintiff,

19 v.  
20

21 ACER INC. and ACER AMERICA CORP.,

22 Defendants.  
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**COMPLAINT FOR PATENT  
INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

1 Plaintiff AVAGO TECHNOLOGIES GENERAL IP (SINGAPORE) PTE. LTD (“Avago”)  
2 files this Complaint for Patent Infringement relating to several U.S. patents as identified below  
3 (collectively, the “Patents-in-Suit”) and alleges as follows:

4 **PARTIES**

5 1. Plaintiff Avago is a corporation with a tax registration number 2005-12430-D  
6 formed under the laws of the country of Singapore with its principal places of business at 1320  
7 Ridder Park Dr., San Jose, California 95131 and 1 Yishun Avenue 7, Singapore 768923.

8 2. Defendant Acer Inc. is a corporation formed under the laws of Taiwan R.O.C., with  
9 its principal place of business at 8F., No. 88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City  
10 221, Taiwan, R.O.C.

11 3. Defendant Acer America Corp. (“AAC”) is a corporation formed under the laws of  
12 the State of California, with its principal place of business at 333 West San Carlos Street, Suite  
13 1500, San Jose, California 95110.

14 4. AAC is a subsidiary of Acer Inc. AAC and Acer Inc. (collectively, “Acer”) acted in  
15 concert with regard to the allegations set forth in this Complaint and, therefore, the conduct  
16 described herein is fairly attributable to either or both entities.

17 **JURISDICTION AND VENUE**

18 5. Avago brings this civil action for patent infringement pursuant to the Patent Laws of  
19 the United States, 35 U.S.C. § 1 *et. seq.*, including 35 U.S.C. §§ 271, 281-285. This Court has  
20 subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338.

21 6. Upon information and belief, Acer transacts and conducts business in this District  
22 and the State of California, and is subject to the personal jurisdiction of this Court. Upon  
23 information and belief, Acer has minimum contacts within the State of California and this District  
24 and has purposefully availed itself of the privileges of conducting business in the State of California  
25 and in this District by, *inter alia*, maintaining its regional headquarters in this District. Avago’s  
26 causes of action arise directly from Acer’s business contacts and other activities in the State of  
27 California and in this District.

28 7. Upon information and belief, Acer has committed acts of infringement, both directly

1 and indirectly, within this District and the State of California by, *inter alia*, selling, offering for sale,  
2 importing, advertising, and/or promoting products that infringe one or more claims of the Patents-  
3 in-Suit. More specifically, Acer, directly and/or through intermediaries, uses, sells, ships,  
4 distributes, offers for sale, advertises and otherwise promotes its products in the United States, the  
5 State of California, and this District.

6 8. Upon information and belief, Acer solicits customers in the State of California and  
7 this District, and has many customers who are residents of the State of California and this District  
8 and who use Acer's products in the State of California and in this District.

9 9. Venue is proper in this district under 28 U.S.C. §§ 1391 and 1400(b).

### 10 **THE PATENTS-IN-SUIT**

11 10. On February 9, 1999, the U.S. Patent and Trademark Office ("USPTO") duly and  
12 legally issued U.S. Patent No. 5,870,087, titled "MPEG Decoder System and Method Having a  
13 Unified Memory for Transport Decode and System Controller Functions," to Kwok Kit Chau (the  
14 "'087 Patent"). A true and correct copy of the '087 Patent is attached as Exhibit A to this  
15 Complaint.

16 11. On February 13, 2001, the USPTO duly and legally issued U.S. Patent No.  
17 6,188,835, titled "Optical Disk System and Method for Storing Data Allowing Playback of Selected  
18 Portions of Recorded Presentations," to Brett J. Grandbois (the "'835 Patent"). A true and correct  
19 copy of the '835 Patent is attached as Exhibit B to this Complaint.

20 12. On August 6, 2002, the USPTO duly and legally issued U.S. Patent No. 6,430,148,  
21 titled "Multidirectional Communication Systems," to Steven Richard Ring (the "'148 Patent"). A  
22 true and correct copy of the '148 Patent is attached as Exhibit C to this Complaint.

23 13. On January 3, 2006, the USPTO duly and legally issued U.S. Patent No. 6,982,663,  
24 titled "Method and System for Symbol Binarization," to Lowell Winger (the "'663 Patent"). A true  
25 and correct copy of the '663 Patent is attached as Exhibit D to this Complaint.

26 14. On June 1, 2004, the USPTO duly and legally issued U.S. Patent No. 6,744,387,  
27 titled "Method and System for Symbol Binarization," to Lowell Winger (the "'387 Patent"). A true  
28 and correct copy of the '387 Patent is attached as Exhibit E to this Complaint.

15. On November 9, 1999, the USPTO duly and legally issued U.S. Patent No. 5,982,830, titled “Hysteretic Synchronization System For MPEG Audio Frame Decoder,” to Greg Maturi and Gregg Dierke (the “’830 Patent”). A true and correct copy of the ‘830 Patent is attached as Exhibit F to this Complaint.

16. By assignment, Avago owns all right, title, and interest in and to the Patents-in-Suit, including but not limited to the right to enforce the Patents-in-Suit and collect damages for past and future infringements.

**COUNT 1**  
**(Infringement of U.S. Patent No. 5,870,087)**

17. Avago incorporates by reference each and every allegation in the preceding paragraphs.

18. Acer is making, using, offering to sell, selling and/or importing into the United States products, including but not limited to Acer Model No. VN7-592G-71ZL, that infringe at least Claim 1 of the '087 Patent. On information and belief, Acer Model No. VN7-592G-71ZL includes an NVIDIA GeForce GTX 960M graphics processing unit that includes an MPEG decoder system that includes a single memory for use by transport, decode, and system controller functions. On information and belief, the system includes a channel receiver for receiving an MPEG encoded stream; transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream; a system controller coupled to the transport logic which controls operations within the MPEG decoder system; an MPEG decoder coupled to receive one or more multimedia data streams output from the transport logic, wherein the MPEG decoder operates to perform MPEG decoding on the multimedia data streams. On information and belief, a memory is coupled to the MPEG decoder, the memory is used by the MPEG decoder during MPEG decoding operations, the memory stores code and data useable by the system controller which enables the system controller to perform control functions within the MPEG decoder system, and the memory is used by the transport logic for demultiplexing operations. On information and belief, the MPEG decoder is operable to access the memory during MPEG decoding operations; the transport logic is operable to access the memory to store and retrieve data during demultiplexing

1 operations; and the system controller is operable to access the memory to retrieve code and data  
2 during system control functions.

3 19. Upon information and belief, Acer had actual knowledge of the '087 Patent at least  
4 as early as January 9, 2014, and at least since that date has had actual knowledge that one or more  
5 of its products infringes one or more claims of the '087 Patent.

6 20. On information and belief, Defendants have induced and will continue to induce the  
7 infringement of at least one claim of the '087 patent, in violation of 35 U.S.C. § 271(b), by, among  
8 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
9 and end users) through activities such as marketing Acer products, creating and/or distributing data  
10 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
11 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
12 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
13 the '087 patent. On information and belief, Defendants know that the induced acts constitute  
14 infringement of the '087 patent.

15 21. Upon information and belief, Acer's infringement has been, and continues to be,  
16 willful and deliberate, and has caused substantial damage to Avago.

17 22. The infringement of the '087 Patent by Acer will continue unless enjoined by this  
18 Court.

19 23. The infringing activities by Acer have caused and will continue to cause irreparable  
20 injury to Avago for which there exists no adequate remedy at law.

21  
22 **COUNT 2**  
**(Infringement of U.S. Patent No. 6,188,835)**

23 24. Avago incorporates by reference each and every allegation in the preceding  
24 paragraphs.

25 25. Acer is making, using, offering to sell, selling and/or importing into the United  
26 States products, including but not limited to Acer Model No. E5-573-39K5, that infringe at least  
27 Claim 8 of the '835 Patent. Acer Model No. E5-573-39K5 is a laptop with a DVD disk system.  
28 DVDs are optical disks. Acer Model No. E5-573-39K5 contains a disk drive that retrieves from an

1 optical disk identification data (such as the disk title, which identifies the optical disk), encoded  
2 video data (such as MPEG-2 encoded audio and video information, *i.e.*, a presentation such as a  
3 movie or television program) and navigation data (such as timecodes and chapter starts). Acer  
4 Model No. E5-573-39K5 includes a touchpad, which is an input device configured to produce an  
5 output signal in response to user input. Acer Model No. E5-573-39K5 includes software that allows  
6 a user to create bookmarks using the touchpad. Bookmarks indicate a beginning of a selected  
7 portion of the presentation, namely, the portion of the presentation that occurs after the bookmark.  
8 Acer Model No. E5-573-39K5 includes a hard disk, which is a non-volatile memory for storage of  
9 identification data and navigation data. Acer Model No. E5-573-39K5 also includes a CPU (a  
10 microprocessor) coupled to receive the identification data and the navigation data from the disk  
11 drive. The CPU also receives the output signal from the input device. The CPU is coupled to the  
12 hard disk. Acer Model No. E5-573-39K5 operates in a “save index mode” when a presentation is  
13 being played by a user and a bookmark can be created at any instant using the input device. Acer  
14 Model No. E5-573-39K5 operates in a “play index mode” when the bookmark viewer screen has  
15 been accessed by the user, meaning that the user can double click on any previously created  
16 bookmark and jump to the beginning of the portion of the presentation associated with that  
17 bookmark. During playback of a movie, the user may use the touchpad to create a bookmark. In  
18 doing so, the output signal of the touchpad indicates the beginning of the user selected portion of  
19 the presentation currently being played, as the user selected portion is a portion of the presentation  
20 subsequent to the bookmark. The CPU responds to the output signal by producing the current  
21 timecode (navigation data), which identifies the beginning of the user selected portion of the  
22 presentation currently being played, and storing the identification data and the current navigation  
23 data in the hard disk. The identification data and the current navigation data exist concurrently in  
24 the hard disk and are associated with each other.

25         26.       Upon information and belief, Acer had actual knowledge of the ‘835 Patent at least  
26 as early as November 17, 2008, and at least since that date has had actual knowledge that one or  
27 more of its products infringes one or more claims of the ‘835 Patent.

28         27.       On information and belief, Defendants have induced and will continue to induce the

1 infringement of at least one claim of the '835 patent, in violation of 35 U.S.C. § 271(b), by, among  
2 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
3 and end users) through activities such as marketing Acer products, creating and/or distributing data  
4 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
5 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
6 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
7 the '835 patent. On information and belief, Defendants know that the induced acts constitute  
8 infringement of the '835 patent.

9 28. Upon information and belief, Acer's infringement has been, and continues to be,  
10 willful and deliberate, and has caused substantial damage to Avago.

11 29. The infringement of the '835 Patent by Acer will continue unless enjoined by this  
12 Court.

13 30. The infringing activities by Acer have caused and will continue to cause irreparable  
14 injury to Avago for which there exists no adequate remedy at law.

15 **COUNT 3**  
16 **(Infringement of U.S. Patent No. 6,430,148)**

17 31. Avago incorporates by reference each and every allegation in the preceding  
18 paragraphs.

19 32. Acer is making, using, offering to sell, selling and/or importing into the United  
20 States products, including but not limited to Acer Model No. SW5-271-64V2, that infringe at least  
21 Claim 8 of the '148 Patent. On information and belief Acer Model No. SW5-271-64V2 is a laptop  
22 that is compatible with at least versions b, g, n, and ac of the IEEE 802.11 Standard. As an 802.11-  
23 compatible product, Acer Model No. SW5-271-64V2 is an apparatus for use in an OFDM  
24 communication system. Acer Model No. SW5-271-64V2 comprises a first OFDM device for  
25 communicating with a second OFDM device at a remote station. Acer Model No. SW5-271-64V2  
26 is configured to add a pilot signal to a plurality of data signals, generate a plurality of sub-carrier  
27 signals by modulating the pilot signals and data signals, and generate a plurality of sub-carrier  
28 frequency signals by performing an inverse fast Fourier transformation on the sub-carrier signals for

1 transmission to the remote station.

2 33. Upon information and belief, Acer had actual knowledge of the '148 Patent at least  
3 as early as November 24, 2015 based on letters sent by Plaintiff, and at least since that date has had  
4 actual knowledge that one or more of its products infringes one or more claims of the '148 Patent.

5 34. On information and belief, Defendants have induced and will continue to induce the  
6 infringement of at least one claim of the '148 patent, in violation of 35 U.S.C. § 271(b), by, among  
7 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
8 and end users) through activities such as marketing Acer products, creating and/or distributing data  
9 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
10 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
11 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
12 the '148 patent. On information and belief, Defendants know that the induced acts constitute  
13 infringement of the '148 patent.

14 35. Upon information and belief, Acer's infringement has been, and continues to be,  
15 willful and deliberate, and has caused substantial damage to Avago.

16 36. The infringement of the '148 Patent by Acer will continue unless enjoined by this  
17 Court.

18 37. The infringing activities by Acer have caused and will continue to cause irreparable  
19 injury to Avago for which there exists no adequate remedy at law.

20 **COUNT 4**

21 **(Infringement of U.S. Patent No. 6,982,663)**

22 38. Avago incorporates by reference each and every allegation in the preceding  
23 paragraphs.

24 39. Acer is making, using, offering to sell, selling and/or importing into the United  
25 States products, including but not limited to Acer Model No. VN7-592G-71ZL, that infringe at least  
26 claim 11 of the '663 Patent. On information and belief, Acer Model No. VN7-592G-71ZL includes  
27 an NVIDIA GeForce GTX 960M graphics processing unit that includes decoder circuitry that is  
28 configured to generate and decode UEG(k) encoded syntax elements, or "codewords," as described



1 in the H.264 Standard. On information and belief, the VN7-592G-71ZL accomplishes this by  
2 setting the index value to a threshold in response to a first portion of the decoder-generated  
3 codeword having a first pattern; adding an offset to the index value based on a second pattern in a  
4 second portion of the codeword following the first portion in response to the first portion having the  
5 first pattern; and adding a value to the index value based on a third pattern in a third portion of the  
6 codeword following the second portion in response to the first portion having the first pattern.

7 40. Upon information and belief, Acer had actual knowledge of the '663 Patent at least  
8 as early as April 21, 2008, and at least since that date has had actual knowledge that one or more of  
9 its products infringes one or more claims of the '663 Patent.

10 41. On information and belief, Defendants have induced and will continue to induce the  
11 infringement of at least one claim of the '663 patent, in violation of 35 U.S.C. § 271(b), by, among  
12 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
13 and end users) through activities such as marketing Acer products, creating and/or distributing data  
14 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
15 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
16 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
17 the '663 patent. On information and belief, Defendants know that the induced acts constitute  
18 infringement of the '663 patent.

19 42. Upon information and belief, Acer's infringement has been, and continues to be,  
20 willful and deliberate, and has caused substantial damage to Avago.

21 43. The infringing activities by Acer have caused and will continue to cause irreparable  
22 injury to Avago for which there exists no adequate remedy at law.

23 **COUNT 5**  
24 **(Infringement of U.S. Patent No. 6,744,387)**

25 44. Avago incorporates by reference each and every allegation in the preceding  
26 paragraphs.

27 45. Acer is making, using, offering to sell, selling and/or importing into the United  
28 States products, including but not limited to Acer Model No. VN7-592G-71ZL, that infringe at least

1 claim 3 of the '387 Patent. On information and belief, Acer Model No. VN7-592G-71ZL includes  
2 an NVIDIA GeForce GTX 960M graphics processing unit that includes an encoder that performs  
3 UEG(k) encoding of syntax elements or "index values" as described in the H.264 Standard. On  
4 information and belief, the VN7-592G-71ZL encoder accomplishes this by determining if a  
5 particular index value is less than a threshold value and, if so, the decoder constructs a codeword  
6 using a unary binarization; otherwise, the encoder constructs a codeword in a way that includes  
7 using exp-Golomb binarization.

8 46. Upon information and belief, Acer had actual knowledge of the '387 Patent at least  
9 as early as January 9, 2014, and at least since that date has had actual knowledge that one or more  
10 of its products infringes one or more claims of the '387 Patent.

11 47. On information and belief, Defendants have induced and will continue to induce the  
12 infringement of at least one claim of the '387 patent, in violation of 35 U.S.C. § 271(b), by, among  
13 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
14 and end users) through activities such as marketing Acer products, creating and/or distributing data  
15 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
16 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
17 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
18 the '387 patent. On information and belief, Defendants know that the induced acts constitute  
19 infringement of the '387 patent.

20 48. Upon information and belief, Acer's infringement has been, and continues to be,  
21 willful and deliberate, and has caused substantial damage to Avago.

22 49. The infringing activities by Acer have caused and will continue to cause irreparable  
23 injury to Avago for which there exists no adequate remedy at law.

24 **COUNT 6**  
25 **(Infringement of U.S. Patent No. 5,982,830)**

26 50. Avago incorporates by reference each and every allegation in the preceding  
27 paragraphs.

28 51. Acer is making, using, offering to sell, selling and/or importing into the United

1 States products, including but not limited to Acer Model No. A3-A20-K1AY, that infringe at least  
2 claim 1 of the '830 Patent. On information and belief, the Acer Model No. A3-A20-K1AY includes  
3 a MediaTek MT8127 processor and/or software capable of or adapted to decode digital audio  
4 datastreams (*e.g.*, MPEG audio, *etc.*), and is capable of or adapted to synchronize a data processing  
5 unit to a bitstream having synchronization codes successively spaced by a predetermined interval  
6 with data for processing disposed between the synchronization codes where said bitstream has a  
7 data header comprising a bitrate and a sampling frequency. In addition, on information and belief,  
8 the Acer Model No. A3-A20-K1AY includes a detector for detecting said synchronization codes, a  
9 sensor for sensing intervals between successive synchronization codes, and a comparator for  
10 comparing said intervals with said predetermined interval. On information and belief, the Acer  
11 Model No. A3-A20-K1AY includes a controller to determine whether the system is synchronized to  
12 the bitstream after the comparator has detected a first predetermined number of said intervals, and  
13 whether the system is unsynchronized to the bitstream after the comparator has detected a second  
14 predetermined number of said intervals. On information and belief, the Acer Model No. A3-A20-  
15 K1AY includes a header sensor for sensing said data header and calculating said predetermined  
16 interval from said information.

17 52. Upon information and belief, Acer had actual knowledge of the '830 Patent at least  
18 as early as January 9, 2014, and at least since that date has had actual knowledge that one or more  
19 of its products infringes one or more claims of the '830 Patent.

20 53. On information and belief, Defendants have induced and will continue to induce the  
21 infringement of at least one claim of the '830 patent, in violation of 35 U.S.C. § 271(b), by, among  
22 other things, actively and knowingly aiding and abetting others (including Defendants' customers  
23 and end users) through activities such as marketing Acer products, creating and/or distributing data  
24 sheets, application notes, and/or similar materials with instructions on using Acer products, with the  
25 specific intent to induce others to directly make, use, offer for sale, sell, and/or import into the  
26 United States, without license or authority from Plaintiff, Acer products that fall within the scope of  
27 the '830 patent. On information and belief, Defendants know that the induced acts constitute  
28 infringement of the '830 patent.

54. Upon information and belief, Acer's infringement has been, and continues to be, willful and deliberate, and has caused substantial damage to Avago.

55. The infringement of the '830 Patent by Acer will continue unless enjoined by this Court.

56. The infringing activities by Acer have caused and will continue to cause irreparable injury to Avago for which there exists no adequate remedy at law.

**PRAYER FOR RELIEF**

WHEREFORE, Avago requests that judgment be entered in its favor and against Acer as follows:

A. Entering judgment declaring that Acer has infringed, directly and/or indirectly, literally and/or under the doctrine of equivalents, the Patents-in-Suit in violation of 35 U.S.C. § 271;

B. Issuing preliminary and permanent injunctions enjoining Acer, its officers, agents, subsidiaries and employees, and those in privity or in active concert with them, from further activities that constitute infringement of U.S. Patent No. 5,870,087; U.S. Patent No. 6,188,835; U.S. Patent No. 6,430,148; and U.S. Patent No. 5,982,830, within the State of California and across the United States;

C. Declaring that Acer's infringement of the Patents-in-Suit is willful and deliberate pursuant to 35 U.S.C. § 284;

D. Ordering that Avago be awarded damages in an amount no less than a reasonable royalty for each asserted patent arising out of Acer's infringement of the Patents-in-Suit, together with costs, prejudgment, and post-judgment interest;

E. Declaring this an exceptional case under 35 U.S.C. § 285 and awarding attorneys' fees and trebling of damages; and

F. Awarding Avago such other costs and further relief as the Court deems just and proper.

**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Avago demands a trial by jury on all issues so triable.

1 DATED: November 25, 2015

Respectfully submitted,

2 KILPATRICK TOWNSEND & STOCKTON LLP

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